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GROUNDWATER MONITORING REPORT
DICKSON COUNTY LANDFILLS
Class I & Class IV
SNL # 22-102-0065
GS&P Project No. 21184.00
September 2000

PREPARED FOR:

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EXECUTIVE SUMMARY:

The following report documents the September 2000 semi-annual groundwater-sampling event for the **Dickson County Class I & Class IV Landfill, SNL # 22-102-0065**. This groundwater-sampling event occurred on September 20, 2000 for Sullivan Spring and September 26, 2000 for the monitoring wells. All ground water samples were collected and analyzed for Appendix I metals and Appendix I volatile organic compounds. Additionally, the ground water samples were analyzed for alkalinity, chloride, fluoride, sulfate and EDB/EBCP for ground water statistical analyses. A leachate sample was also collected and analyzed for Appendix I volatile organic compounds and phthalates only. The ground water monitoring network consists of MW-1a, MW-2, MW-4, MW-6, MW-7, MW-8, MW-9, MW-10 and Sullivan Spring. Laboratory analytical results indicate an MCL exceedance for trichloroethylene (TCE) in the sample collected from Sullivan Spring. No additional MCL exceedances were observed.

Two groundwater aquifers have been extrapolated from static water elevations taken from the monitoring wells at the facility. The first aquifer encountered beneath the landfill property occurs in the regolith and appears to flow toward the northeast. The second, deeper aquifer occurs in the bedrock and appears to flow toward the west, southwest. Interaction between these aquifers is likely but the extent of which has not been determined.

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I. INTRODUCTION

The following report summarizes the activities and analytical results for the September 2000 groundwater sampling event for the Dickson County Class I & Class IV Landfill. Representative groundwater samples were collected from monitoring wells at the facility as well as an off-site spring. The monitoring event was conducted in accordance with the Division of Solid Waste Management Regulations. The monitoring well network for the facility was analyzed for *Appendix I* parameters pursuant to the Division of Solid Waste requirements. A map depicting the locations of the monitoring points as well as top of casing elevations has been included in Appendix A.

This report describes the sampling procedures, analytical data, initial data validation procedures, and a summary of findings. The raw analytical data sheets provided by Environmental Science Corporation are located in Appendix B of this report. A tabulated list of *Appendix I* parameters, with SW-846 methods and Practical Quantification Limits, is located in Appendix B of this report.

A summary table of all quantifiable analytical results for the sampling event is presented in Table 1 located in Appendix A. Table 1 summarizes the analytical results, determination made during the initial data validation, laboratory determined Limits of Quantitation, analytical method utilized, and the Maximum Contaminant Level (MCL) for any parameter for which a level has been established. Table 2, located in Appendix A, provides field parameters and measured groundwater elevation data for all of the compliance monitoring wells.

A. Groundwater Monitoring Well Network

The compliance monitoring well network for the Dickson County Class I Landfill consists of monitoring wells MW-1a, MW-6, MW-7, MW-8, MW-9, and MW-10. Due to the placement of waste and locations of monitoring wells, it is unlikely that any of the monitoring wells are upgradient of waste, hence no background sampling point has been established. An additional well, MW-8a, has been constructed within twelve feet of MW-8. This well has been outfitted with a high capacity submersible pump.

Dickson County Class IV Landfill compliance monitoring well network consists of monitoring wells MW-2 and MW-4. A background monitoring point has not been established for this landfill. Due to the placement of waste and locations of monitoring wells, it is unlikely that any of the monitoring wells are upgradient of waste, hence no background sampling point has been established. Additionally, Sullivan Spring has been included in the monitoring network for this facility.

B. Groundwater Flow

Measurements from top of casing (TOC) to static water levels in each groundwater monitoring well were collected prior to purging activities. These measurements were used to calculate the altitude of groundwater in each monitoring well. Groundwater altitudes are listed in Table 2 following this report. Analysis of groundwater altitude data collected during this groundwater sampling event indicates that there is sufficient data to project some localized groundwater potentiometric surfaces as well as gradients at the site.

The first aquifer occurring at beneath the landfill occurs within the regolith. Groundwater altitudes observed in monitoring wells MW-1a, MW-2, MW-4, MW-7, MW-9, and perhaps Sullivan Spring are believed to be indicative of this aquifer. The highest known groundwater altitude of this aquifer occurs at 774.71 feet above Mean Sea Level (+MSL) in monitoring well MW-2. The lowest known groundwater altitude of this aquifer occurs at 741.39 +MSL in monitoring well MW-7. An estimated potentiometric surface map for this aquifer is depicted in Figure 1, Appendix A. This map also includes a stylized groundwater flow direction represented by bold arrows intercepting the groundwater isopleths at 90° angles. Depending upon what area of the landfill one wishes to observe, the groundwater flow within the first aquifer varies from a northerly direction to an easterly direction. However, a northeasterly direction is probable.

A potentiometric gradient for the "shallow" aquifer was calculated by subtracting the lowest known groundwater altitude from the highest known groundwater altitude, dividing by the horizontal distance between the two points, and finally multiplying by 100 to achieve a percent grade. The following equation represents the calculation made from groundwater altitudes observed on September 20, 2000:

Equation 1 – "Shallow" Aquifer

$$\frac{\text{774 +MSL (Highest altitude isopleth)} - \text{741 +MSL (Lowest altitude isopleth)}}{1050} \times 100 = 3.1\%$$

A second aquifer is believed to have been delineated at the site. This "deeper" aquifer occurs within the bedrock and is believed to be represented in monitoring wells MW-1, MW-6, MW-8, MW-10, and perhaps Sullivan Spring. The highest known groundwater altitude of this aquifer occurs at 773.10 +MSL in monitoring well MW-1. The lowest known groundwater altitude of this aquifer occurs at 737.24 +MSL in monitoring well MW-6. An estimated potentiometric surface map for this aquifer is depicted in Figure 2, Appendix A.

Flow direction within the aquifer is believed to be to the west, southwest and is represented by bold arrows on Figure 2. A potentiometric gradient for this aquifer was calculated using the above referenced equation. The following represents the calculation made from groundwater altitudes observed on September 20, 2000:

Equation 2 – "Deep" Aquifer

$$\frac{\text{773 +MSL (Highest altitude isopleth)} - \text{737 +MSL (Lowest altitude isopleth)}}{1230} \times 100 = 2.9\%$$

It is not clear at this time if Sullivan Spring drains the "shallow" or the "deep" aquifer, or perhaps a combination of the two. Additional hydrogeologic investigation may be necessary to further delineate each aquifer and the relationship, if any, between the two.

II. GROUNDWATER SAMPLING PROCEDURES

Groundwater samples for this groundwater sampling event were collected according to the following discussion to ensure representative samples were collected, received by the laboratory, and subjected to analysis. Field data purge and sample forms as well as field notes are located in Appendix C to document groundwater sample collection procedures for the sampling event.

A. Well Purging and Sample Collection

Ideally, a total of three (3) well volumes of groundwater are withdrawn from each monitoring well unless all field parameter readings for two consecutive intervals are within 10 percent of each values indicated on the previous well volume. A well volume is calculated from water level measurements and total depth measurements taken prior to purging. Field parameters of pH, conductivity, temperature, and turbidity are collected before purge activity commencement as well as after each well volume is removed. Stabilization of field parameters including pH, specific conductivity, temperature, and turbidity are used to verify that stagnant water within the well is removed during purging.

Some of the deeper monitoring wells at the facility contain groundwater in sufficient volumes to exclude bailing as an acceptable purge method. Instead, decontaminated Grunfos® submersible pumps were used to purge the requisite well volumes in monitoring wells MW-6 and MW-10. The pumps were set at or near the bottom of the monitoring wells to ensure that dense, non-aqueous phase liquids (dnapls) were captured for analysis. MW-8a is installed approximately twelve feet from MW-8 in the same water-bearing zone. MW-8a is outfitted with a dedicated high capacity submersible pump. Since MW-8a has a dedicated pump and the total depth of MW-8 is 240 feet BGS, MW-8a was allowed to pump and remove the water from the appropriate water-bearing zone shared with MW-8. A ground water sample was obtained from MW-8 utilizing a weighted double check valve bailer lowered to the bottom of the well prior to purging. After purging approximately 25,000 gallons from MW-8a, a sample was obtained from MW-8 using a weighted double check valve bailer lowered to the bottom of the well.

B. Field Instrument Calibration

An Orion pH probe, an Orion conductivity/temperature meter, and a Lamotte turbidimeter were used for field analysis. Prior to the start of field activities, each instrument (with the exception of the thermometer) was checked with known parameter standards to ensure instrument precision and accuracy. Field notes recorded in the site specific field book during each sampling event summarize and document well purging calculations and results. The field notes as well as the Groundwater Field Data Sampling Reports are located in Appendix C of this report.

C. Quality Control / Quality Assurance

A trip blank sample for quality control / quality assurance was analyzed for *Appendix I* volatile organic constituents for the September 26, 2000, sampling event. The trip blank was transported along with the other sample collection jars and subjected to the same conditions to ensure sample integrity. Environmental Science Corporation supplied a laboratory analytical report for the *Appendix I* volatile organic constituents. The laboratory report, along with the laboratory analytical reports is located in Appendix B of this report.

D. Sample Containers and Shipment

Groundwater samples were collected in US-EPA approved containers prepared and supplied by the analyzing laboratory. The analyzing laboratory, Environmental Science Corporation, prepared the sample containers with the appropriate preservative prior to sample collection. In order to preserve the chemical characteristics of target parameters between the time the samples are collected in field to the time they are analyzed, proper preservation techniques must be followed. Immediately after collection, samples were placed in coolers and maintained at or below four (4) degrees Celsius with ice. However, the groundwater samples were not frozen.

E. Chain-of-Custody Documentation

Chain-of-custody seals were placed on each cooler to verify integrity during transport. Chain-of-custody documents were provided by the analyzing laboratory and were completed in the field. Sample custody was relinquished to Environmental Science Corporation courier personnel for delivery to the laboratory.

III. LABORATORY ANALYSIS

Environmental Science Corporation of Mt. Juliet, Tennessee, completed all analyses for the September 20, 2000 sampling event. The analytical methods used for this project were the most appropriate methods available within the framework of the Division of Solid Waste Management regulations and US-EPA SW-846 (3rd Edition as updated). The various techniques used include Gas Chromatography (GC), Gas chromatography with Mass Spectroscopy confirmation (GC/MS), Graphite Furnace Atomic Absorption Analysis (GFAA), Inductively Coupled Plasma (ICP), Inductively Coupled Plasma – Mass Spectroscopy (ICP/MS), Cold Vapor Atomic Absorption (CVAA), and Titrimetric methods for Cyanide, Sulfide, and Fluoride. All Analytical techniques used were in accordance with procedures listed in US-EPA document *Test Methods for Evaluating Solid Waste-Physical/Chemical Methods, SW-846*, as updated. Parameters and corresponding analytical methods are listed in Table I and Table 2 of this report.

IV. STATISTICAL ANALYSIS & CONCLUSIONS

Laboratory analysis of groundwater samples collected from the monitoring wells and off site spring did not indicate any levels of Appendix I Metals or VOCs above their respective MCLs except for the TCE exceedance indicated in the sample collected from Sullivan Spring. Also indicated within the Sullivan Spring sample is cis-1,2-dichloroethylene. Since these constituents are often observed together within impacted groundwater samples, it is likely that they are in fact present in the sample.

Historical analytical results for Sullivan Spring have indicated TCE contamination on previous occasions. Also, TCE has been indicated in samples collected from a Dickson City water well and Sullivan Well. Correlation between these sampling points has ended with the fact that each has had laboratory analysis indicating TCE contamination. The source of the TCE contamination has not been determined at this time.

Statistical or trend analysis of the detected chemical constituents has not been completed for this sampling event. Instead, Piper and Stiff diagrams have been generated using major cation and anion results to delineate the relative composition of the samples collected from each monitoring well. These results can be interpreted in various ways but an acceptable technical paper to refer to is "Landfill Remediation and Contamination Characterization: Use Simple Methods to Identify Landfill Leachate"; Siegel, Donald L., Moran, Elizabeth C., & Stoner, David

W., MSW Management, November 1995. Future groundwater monitoring reports will employ both traditional statistical analyses as well as Piper/Stiff analysis.

The next groundwater-monitoring event for this facility is scheduled for February 2001.

APPENDIX A
Tables & Maps

Table: 1
Project: Dickson County Landfills
Purpose: *Semi-Annual Groundwater Monitoring - 9/00*

	Parameter[1]	MCL[2]	MW-1a	MW-2	MW-4	MW-6	MW-7	MW-8 Pre-Purge	MW-8	MW-9	MW-10	Leachate	Sullivan Spring
Metals	Antimony	0.006	<0.0020	<0.0020	<0.0020	<0.0020	0.003	<0.0020	<0.0020	<0.0020	<0.0020	NA[3]	<0.0020
	Arsenic	0.05	0.007	<0.0050	<0.0050	<0.0050	<0.0050	0.012	<0.0050	<0.0050	<0.0050	NA	<0.0050
	Barium	2	0.11	0.026	0.053	0.018	0.037	0.34	0.017	0.014	0.015	NA	0.018
	Beryllium	0.004	0.0023	<0.0020	<0.0020	<0.0020	0.0021	0.042	<0.0020	<0.0020	<0.0020	NA	<0.0020
	Cadmium	0.005	<0.0020	0.0022	<0.0020	<0.0020	0.002	0.038	<0.0020	<0.0020	<0.0020	NA	<0.0020
	Calcium		120	2.8	2.9	45	40	120	48	40	44	NA	NA
	Chromium	0.1	0.0092	0.014	0.0091	0.003	0.035	0.063	0.0048	0.0077	0.011	NA	<0.0020
	Cobalt		0.014	<0.010	0.011	<0.010	<0.010	0.045	<0.010	<0.010	<0.010	NA	<0.010
	Copper	1.3	0.014	<0.010	<0.010	0.012	0.012	0.097	<0.010	<0.010	0.015	NA	<0.010
	Iron		5.7	5.8	12	0.071	10	69	1.5	1.9	0.24	NA	NA
	Lead	0.015	0.012	<0.0050	0.011	<0.0050	0.0063	0.14	<0.0050	<0.0050	<0.0050	NA	<0.0050
	Magnesium		6.2	0.94	0.89	6.9	6.8	10	5.1	4.7	6.1	NA	8.5
	Manganese		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Mercury	0.002	0.00027	<0.00020	<0.00020	<0.00020	<0.00020	0.0064	<0.00020	<0.00020	<0.00020	NA	<0.00020
	Nickel		0.034	<0.010	<0.010	<0.010	0.019	0.35	<0.010	<0.010	<0.010	NA	<0.010
	Potassium		2.8	1.2	1.0	<0.50	4.1	4.1	0.82	1.1	<0.50	NA	<0.50
	Selenium		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA	0.0091
	Silver		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	NA	<0.0020
	Sodium		4.0	1.1	1.3	1.4	13	5.3	2	2	1.6	NA	2.2
	Thallium	0.002	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0024	<0.0010	<0.0010	<0.0010	NA	<0.0010
	Vanadium		0.014	0.014	0.017	<0.010	0.031	0.1	<0.010	<0.010	<0.010	NA	<0.010
	Zinc		0.19	0.039	0.043	<0.010	0.17	5.4	0.039	0.03	<0.010	NA	<0.010
	Alkalinity, Bicarbonate		110	<10	<10	130	87	100	110	80	130	NA	150
	Alkalinity, Carbonate		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chloride		2.8	1.7	2.8	2.1	2.3	2.3	2.3	2.3	2.3	NA	4.4
	Fluoride		0.17	0.12	0.14	0.18	0.18	0.18	0.15	0.18	0.16	NA	0.14
	Sulfate		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.2	<5.0	NA	<5.0
Volatiles	1,2-Dibromo-3-chloropropane	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	NA	<0.00002
	Ethylene dibromide (EDB)	0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	NA	<0.00001
	Acetone		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
	Acrylonitrile		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
	Benzene	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0034	<0.0010
	Bromochloromethane		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bromodichloromethane		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bromoform		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bromomethane		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Carbon disulfide		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
	Carbon tetrachloride	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Chlorobenzene	0.1	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0048	<0.0010
	Chlorodibromomethane		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Chloroethane		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Chloroform		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Chloromethane		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Dibromomethane		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,2-Dichlorobenzene	0.6	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,4-Dichlorobenzene	0.075	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.004	<0.0020
	trans-1,4-Dichloro-2-butene		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,1-Dichloroethane		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,2-Dichloroethane	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,1-Dichloroethylene	0.007	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	cis-1,2-Dichloroethylene	0.07	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.025
	trans-1,2-Dichloroethylene	0.1	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,2-Dichloropropane	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	cis-1,3-Dichloropropene		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	trans-1,3-Dichloropropene		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Ethylbenzene	0.7	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	2-Hexanone		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
	Iodomethane		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
	2-Butanone (MEK)		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
	Methylene Chloride	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	4-Methyl-2-pentanone (MIBK)		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
	Styrene	0.1	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,1,1,2-Tetrachloroethane		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,1,2,2-Tetrachloroethane		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Tetrachloroethylene	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Toluene	1	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,1,1-Trichloroethane	0.2	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,1,2-Trichloroethane	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Trichloroethylene	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.18
	Trichlorofluoromethane		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,2,3-Trichloropropane		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Vinyl acetate		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
	Vinyl chloride	0.002	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Xylenes, Total	10	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Phthalates	Total Phthalates		NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.030	NA
	Bis (2-ethylhexyl) phthalate		NA	NA	NA	NA	NA	NA	NA	NA	NA	0.014	NA
	Benzylbutyl phthalate		NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0050	NA
	Diethyl phthalate		NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0050	NA
	Dimethyl phthalate		NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0050	NA
	Di-n-butyl phthalate		NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0050	NA
	Di-n-octyl phthalate		NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0050	

[1] All parameters listed in mg/L (ppm).
[2] Maximum Contaminant Level
[3] NA:Not Analyzed.
[4] Secondary Drinking Water Standard.

Table: 2
Project: Dickson County Landfills
Purpose: Semi-Annual Groundwater Monitoring - 9/00

Location	Date	TOC Altitude	Depth to Water	Total Depth	pH	Spec. Cond. (microsiemens/cm)	Temp. (C)	Potentiometric Surface Altitude
MW-1	9/20/00	855.82	82.72	88.70	NS	NS	NS	773.10
MW-1a	9/20/00	855.78	100.48	103.40	6.60	193.60	13.60	755.30
MW-2	9/20/00	819.26	44.55	66.41	5.00	27.10	15.50	774.71
MW-4	9/20/00	819.54	60.62	84.81	5.60	27.30	16.50	758.92
MW-6	9/20/00	848.12	110.88	187.00	6.90	228.00	17.30	737.24
MW-7	9/20/00	834.99	93.60	105.30	6.80	154.40	13.40	741.39
MW-8	9/20/00	838.96	96.08	176.90	7.60	241.00	12.10	742.88
MW-9	9/20/00	825.58	77.25	82.20	7.54	149.60	12.90	748.33
MW-10	9/20/00	840.95	100.77	165.40	7.00	230.00	16.20	740.18
Sullivan Spring	9/20/00	722.10	NA	NA	7.25	124.10	15.10	NA

Top of Casing Altitudes Listed in Feet Above Mean Sea Level (+MSL).
NS - Not Sampled.
NA - Not Applicable.

81 feet of water in MW-8

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